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EXAMINER	
SONI, KETAN S	
ART UNIT	**PAPER NUMBER**
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/616,653	Applicant(s) MORTON ET AL.	
	Examiner Ketan Soni	Art Unit 2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/09/2003, 10/02/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements submitted on July 9, 2003 and on October 02, 2003 have been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by **Habetha (US Patent # US 7031321 B2)**.

Consider **claim: 8**, Habetha discloses <u>a system for routing message flows on a network</u> (Each node uses links for the flow of the message, and nodes and links makes network. As regards the network, the object is achieved by means of a dynamic network with a plurality of nodes, in which it is provided that routing information is stored in local routing tables in nodes of the network, column: 1, lines:

29-34), in order to keep the network operating in a nominal steady state, the system comprising: means for a node to route message flows according to routing tables (the nodes send an update request to other nodes for updating the local routing tables, and the addressed nodes (target nodes) send an update response with updated routing information to the requesting nodes (source nodes), column: 1, lines: 34-37) created based on the differences of the weighted potential values to those of the neighbor node (The change that has occurred in the network topology (difference in values because of type of message class) was also entered by the controller CC1 in its routing table at the moment t1 and registered accordingly. This means that (t.sub.reg) is also set for 1. The controllers CC2 to CC5 do not know the change in the network topology at the moment t1 yet. This information must first be distributed over the network. This is done by means of the requests sent by the individual controllers to the neighboring controllers at regular intervals, and by means of the relevant responses of the controllers thus addressed, column: 7, lines: 3-12); means for generating and evaluating queuing information of the network nodes (The field update information contains data on how up to date the individual fields of the routing table are, i.e. when the latest change was applied in the respective field of the routing table. The field update information may again be, for example, a time indicator or a sequence number (queuing or sequencing). The table update information thus corresponds to the most recent field update information of the respective routing table, column: 2, lines: 30-34); means for delivering the queuing information between a pair of two neighbor nodes (Each node in this known

network sends updates of the routing information to adjoining nodes (neighboring nodes) at regular intervals so as to adapt the routing to changes in the network topology, column: 1, lines: 21-23); and means for a node to adjust its routing table in response to the queuing information to accommodate variation of traffic inputs and variation of network topology (The selection of the routing information may take place through comparison of the table update information of the requesting node with the individual field update information of the fields of the routing tables of the addressed nodes, column: 1, lines: 47-51).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 and **9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Habetha (US Patent # US 7031321 B2)** in view of **Ben-Ayed et al. (US Patent # 5218676).**

Consider **claim: 1**, Habetha discloses a <u>method for routing message flows on a network, which is composed of nodes and links</u> (Each node uses links for the flow of the message, and nodes and links makes network. As regards the network, the object is achieved by means of a dynamic network with a plurality of nodes, in which it is provided that routing information is stored in local routing tables in nodes of the network, column: 1, lines: 29-34), <u>and each given node performs the method, which comprises: delivering input information for each class of messages to the target nodes</u> (the nodes send an update request to other nodes for updating the local routing tables, and the addressed nodes (target nodes) send an update response with updated routing information to the requesting nodes (source nodes), column: 1,

lines: 34-37); wherein the differences of the potential values for messages of a class to those of neighbor nodes (Each node in this known network sends updates of the routing information to adjoining nodes at regular intervals so as to adapt the routing to changes in the network, column: 1, lines: 21-23) of the given node represent the direction and the quantity of message flow of each class that are sent on neighbor links of the given node; and computing a routing table based on the differences of the potential values to those of the neighbor nodes (The change that has occurred in the network (difference in values because of type of message class) was also entered by the controller CC1 in its routing table at the moment t1 and registered accordingly. This means that (t reg) is also set for 1. The controllers CC2 to CC5 do not know the change in the network topology at the moment t1 yet. This information must first be distributed over the network. This is done by means of the requests sent by the individual controllers to the neighboring controllers at regular intervals, and by means of the relevant responses of the controllers thus addressed, column: 7, lines: 3-12) except computing potential values for each class of messages,

In the same field of endeavor, Ben-Ayed et al. discloses how to computing potential values for each class of messages, (The path is not predetermined. It is based upon the type of traffic (class of message) in the network, information with respect to which is contained in the message itself by a prioritization factor (prioritization controller 72 for computation purpose) or weight attached to the message, column: 2, lines: 38-42; In order to distinguish between messages which are to be routed

optimally and those which are being delayed, a prioritization mechanism is invoked by the routing system, column: 9, lines: 23-25).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the computation of values for class of message as disclosed by Ben-Ayed et al. in the method of Habetha for the purpose of distinguishing the type of message for appropriate routing.

Consider **claim: 2,** and as applied to claim 1 above Habetha discloses the claimed invention except steps of assigning pre-determined weights on links according to performance parameters of interest.

However in the same field of endeavor, Ben-Ayed et al. discloses the method which can incorporate the steps of assigning pre-determined weights (Routing the message using: a prioritization factor (weight) which depends upon whether the message has been rerouted on a free link of the network which is not along a path of minimal length for the message, column: 3, lines: 67-68) on links according to performance parameters of interest (Selected traffic pattern: Dynamically rerouting messages based upon the message pattern (traffic) in the network, information with respect to which is contained in the messages which are switched by the routing system, column: 3, lines: 54-58, and topology independent column: 4, lines: 32).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the routing of messages based on predefined priority (weight) on the desirable links based upon the message pattern (traffic) in the network as taught by Ben-Ayed et al. in the method of Habetha for the purpose of improved performance.

Consider **claim: 3**, and as applied to claim 1 above, Habetha as modified by Ben-Ayed et al. discloses <u>the step of delivering input rates</u> (Each node in this known network sends updates of the routing information to adjoining nodes at regular intervals so as to adapt the routing to changes in the network topology, column: 1, lines: 21-23) <u>for each class of messages (type) to each target node is triggered periodically or on an event-driven basis</u> (The knowledge of message class: To keep the local routing tables up to date, the nodes having a routing table preferably send an update request to other nodes at regular intervals (periodically), column: 1, lines: 55-57).

Consider **claim: 4**, and as applied to claim 1 above, Habetha discloses the claimed invention but is generally silent about how <u>the input information is delivered by means of broadcast or multicast algorithms via a control frame containing: a source</u>

node address, a target node address, a message class, and an estimated exogenous input rates of messages of the class.

However in the same field of endeavor, Ben-Ayed et al. discloses the method which can incorporate how the input information is delivered by means of broadcast or multicast algorithms (Referring next to FIGS. 3-6 the logic or algorithm which is carried out by the router of each switching node will become more apparent. The control (control frame) information is carried by a message tag, which may be a header or otherwise embedded in the message with the data of the message, column: 10, lines: 6-10) via a control frame containing: a source node address (The source node identification, (x.sub.s) is desirable in acknowledging received messages, column: 10, lines: 20-22), a target node address (The control information identifies the destination node (a target node) and (x.sub.d) is the label of the destination node, column: 10, lines: 12-14), a message class, and an estimated exogenous input rates of messages of the class (Omega (i.e., .omega.) is the weight of the message and indicates initially the minimal path length (the number of communication links) between the source and destination nodes, column: 10, lines: 26-29).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the use of the control information which is carried by a message tag which may be a header or otherwise embedded in the

message and delivered by algorithms as taught by Ben-Ayed et al. in the method of Habetha for the purpose of optimal routing.

Consider **claim: 5**, and as applied to claim 1 above, Habetha as modified by Ben-Ayed et al. further discloses the following steps: initializing (updating) the potential values based on input information at the given node and received from other nodes (Each node in this known network sends updates of the routing information to adjoining nodes at regular intervals so as to adapt (receives) the routing to changes in the network topology, column: 1, lines: 21-23); iteratively receiving the potential values from the neighbor nodes of the given node (The station, referred as the UPDATING station (US), transmits an UPDATE REQUEST message in the broadcast mode to its immediate (routing) neighbor stations, column: 4, lines: 46-48); and iteratively refining potential values of the given node, wherein an offset value based on the potential values received from the neighbor nodes is determined and the weights on the neighbor links are combined with the potential values (Once the UPDATE criteria for a received entry have been fulfilled, a few fields of the contents until that moment are replaced as follows: the next hop terminal ID is replaced with the ID of the relevant neighboring station. The generation time of the new entry is adopted: which changes the time and value of the table, column: 5, lines: 29-33)

Consider **claim: 6**, and as applied to claim 1 above, Habetha as modified by Ben-Ayed et al. discloses the method of claim 1, wherein the potential value for a class of messages is delivered between two neighbor nodes (The station, referred as the UPDATING station (US), transmits an UPDATE REQUEST message in the broadcast mode to its immediate (routing) neighbor stations, column: 4, lines: 46-48) but is generally silent about how to deliver through a control frame containing a source node address where the potential value is generated, the target node address where the message is targeted, the class of the messages, and the potential value.

However in the same field of endeavor, Ben-Ayed et al. discloses the method of determining the potential value for a class of messages (The router has a prioritization controller 72 (for computing the weight and class of the message) with a message address counter 74. (Computing projected value of the counter). A router controller 76 during each routing cycle, steps the address counter through four successive counts, column: 13, lines: 16-19) between two neighbor nodes through a control frame (Referring next to FIGS. 3-6 the logic or algorithm which is carried out by the router of each switching node will become more apparent. The control (control frame) information is carried by a message tag, which may be a header or otherwise embedded in the message with the data of the message, column: 10, lines: 6-10) containing a source node address (The source node identification, (x.sub.s) is desirable in acknowledging received messages, column:

10, lines: 20-22; x.sub.s therefore designates the node where the message is injected into the communications network, column: 10, lines: 23-25) where the potential value is generated, the target node address where the message is targeted (The control information identifies the destination node (a target node) and (x.sub.d) is the label of the destination node, column: 10, lines: 12-14), the class of the messages, and the potential value (In order to distinguish between messages (class of messages) which are to be routed optimally and those which are being delayed, a prioritization mechanism is invoked by the routing system, column: 9, lines: 23-26; Omega (i.e., .omega.) is the weight of the message and indicates initially the minimal path length (the number of communication links) between the source and destination nodes, column: 10, lines: 26-29).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the method of transmitting a message in the broadcast mode to its immediate (routing) neighbor stations, using a control frame which contains a source node address where the potential value is generated, the target node address where the message is targeted, the class of the messages, and the potential value as taught by Ben-Ayed et al. in the method of Habetha for the purpose of optimal routing.

Consider **claim: 7**, and as applied to claim 1 above, Habetha discloses the method of claim 1, wherein the step of computing a routing table (routing information is stored in local routing tables in nodes of the network, the nodes send an update request to other nodes for updating the local routing tables, and the addressed nodes send an update response with updated routing information to the requesting nodes, column: 1, lines: 32-37) further includes the following steps: computing the difference of the potential value to those of the neighbor nodes (The station, referred as the UPDATING station (US), transmits an UPDATE REQUEST message in the broadcast mode to its immediate (routing) neighbor stations, column: 4, lines: 46-48) except for each class of messages and each target node wherein the potential differences are the weighted potential values of the given node minus the weighted potential values of the neighbor nodes; designating the neighbor node as one of downstream neighbor nodes for each class of messages to each target node, where messages of the class and with the target node are routed next, if the potential difference is larger than zero; and creating the routing table based on the weighted potential values for each class of messages and each target node.

However in the same field of endeavor, Ben-Ayed et al. discloses the steps of computing the difference of the potential value (The router has a prioritization controller 72 (for computing the weight and class of the message) with a message address counter 74. (computing projected value of the counter). A router controller 76 during each routing cycle, steps the address counter through four successive

counts, column: 13, lines: 16-19) to those of the neighbor nodes for each class of messages (In order to distinguish between messages (class of messages) which are to be routed optimally and those which are being delayed, a prioritization mechanism is invoked by the routing system, column: 9, lines: 23-26; Omega (i.e., .omega.) is the weight of the message and indicates initially the minimal path length (the number of communication links) between the source and destination nodes, column: 10, lines: 26-29) and each target node (The control information identifies the destination node (a target node) and (X_d) is the label of the destination node, column: 10, lines: 12-14) wherein the potential differences are the weighted potential values of the given node minus the weighted potential values of the neighbor nodes(Routing the message using: a prioritization factor (weight) which depends upon whether the message has been rerouted on a free link of the network which is not along a path of minimal length for the message, column: 3, lines: 67-68); designating the neighbor node (Briefly described, a dynamic message routing system in accordance with the invention, can be used in each node of a multinode network wherein each node is connected to the other nodes of the network by a plurality of message communication links, column: 4, lines: 38-42) as one of downstream neighbor nodes for each class of messages to each target node (The control information identifies the destination node (a target node) and (X_d) is the label of the destination node, column: 10, lines: 12-14), where messages of the class and with the target node are routed next, if the potential difference is larger than zero (The comparators then decide for each message if the destination (target) address (X_d of the message is

equal to the local node address). This decisional process is indicated at 94. If the message's destination address is the address of the local node, the message is inserted into the receive queue as indicated at 96. The message number is decremented (acknowledges the difference) as shown at 98 to keep track of the number of messages being received (by decrementing), column: 14, lines: 5-11); <u>and creating the routing table</u> <u>based on the weighted potential values for each class of messages and each target node</u> (A router controller 76 during each routing cycle, steps the address counter through four successive counts. On each count, a parallel output from the address counter stores addresses in a message address register 78, column: 13, lines: 17-21; This address register addresses a routing table which reads out the link number (of the four links) connected to the routing node, column: 13, lines: 28-30).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate collection of routing information stored in local routing tables in nodes of the network, where the nodes can update local routing tables, as taught by Habetha with the prioritization controller as taught by Ben-Ayed et al. for computing difference of the potential value of two nodes and using a comparator to compare value and create a routing table based on the weighted values for each class of messages.

Consider **claim: 9**, and as applied to the claim; 8 above, Habetha discloses the claimed invention, wherein the queuing information for each class of messaged for each target node is communicated between a pair of neighbor nodes (Each node in this known network sends updates (regarding change in message class or priority-queue) of the routing information to adjoining nodes (neighboring nodes) at regular intervals so as to adapt the routing to changes in the network topology, column: 1, lines: 21-23) except through a control frame, and this control frame is containing a source node address, a target node address, a message class, and queuing information.

However in the same field of endeavor, Ben-Ayed et al. discloses that this control frame is containing a source node address (The source node identification, (x.sub.s) is desirable in acknowledging received messages, column: 10, lines: 20-22), a target node address (The control information identifies the destination node (a target node) and (x.sub.d) is the label of the destination node, column: 10, lines: 12-14), a message class, and queuing information (The path is not predetermined. It is based upon the type of traffic (class of message) in the network, information with respect to which is contained in the message itself by a prioritization factor (prioritization controller 72 for computation purpose) or weight attached to the message, column: 2, lines: 38-42; In order to distinguish between messages which are to be routed

optimally and those which are being delayed, a prioritization mechanism (priority organized by queuing) is invoked by the routing system, column: 9, lines: 23-25).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate updating of the sequencing information for the routing table and communicating between a pair of adjoining nodes as taught by Habetha with the use of control frame which contains four fields such as a source node address, a target node address, a message class, and queuing information as described by Ben-Ayed et al. for the purpose of achieving optimal performance.

Claim 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Habetha (US Patent # US 7031321 B2)** in view of **Dacosta (US Patent # 6912198 B2).**

Consider **claim: 10**, and as applied to claim: 8 above, Habetha a~~s modified by Ben-Ayed et al~~. discloses the claimed invention except that the <u>queuing information is related to queuing length and expected queue length, of the network nominal steady state.</u>

However in the same field of endeavor, Dacosta discloses the <u>queuing information is related to queuing length and expected queue length of the network nominal steady</u>

state (Queue entries in a queue are updated. The queue is indexed by a parameter according to a transmission status of a current packet in a data stream. The current packet is transmitted using a current value of the parameter. A plurality of performance scores are calculated based on the queue entries. A best value of the parameter that corresponds to a best score in the plurality of performance scores is selected, column: 2, lines: 1-7; the updater 220 updates the queue entries in the queue 210 as a current packet is transmitted. The queue 210 in essence contains information about the last N transmission results. These N transmission (length) results correspond to a history window that slides along the data stream as packets are transmitted to keep track of a history, or the most recent N packet transmissions, column: 5, lines: 64-68).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have the multimode network as described by Habetha and incorporate queuing techniques as described by Dacosta for the purpose of using the queue indexed by a parameter according to a transmission status of a current packet in a data stream.

Consider **claim: 11**, and as applied to claim: 10 above, Habetha ~~as modified by Ben-Ayed et al.~~ discloses the claimed invention, wherein the means for a node to adjust the routing table adopts the following algorithm (Referring next to FIGS. 3-6 the logic or algorithm which is carried out by the router of each switching node will become

more apparent. The control (control frame) information is carried by a message tag, which may be a header or otherwise embedded in the message with the data of the message, column: 10, lines: 6-10): designating the neighbor node to be a downstream (Advantageously, however, an excerpt enlarged by a few bits in downward direction (up to the time (T.sub.precision) in FIG. 5) is chosen for transmitting and storing the times (t.sub.up), (t.sub.gen), and (t.sub.reg), although only the bits fully hatched in FIG. 5 are actually processed in the routing algorithm, column: 9, lines: 7-11) neighbor node for a class of messages (Each node in this known network sends updates of the routing information to adjoining nodes at regular intervals so as to adapt the routing to changes in the network, column: 1, lines: 21-23) to a target node (The control information identifies the destination node (a target node) and (x.sub.d) is the label of the destination node, column: 10, lines: 12-14), where the messages of the class (The path is not predetermined. It is based upon the type of traffic (class of message) in the network, information with respect to which is contained in the message itself by a prioritization factor (prioritization controller 72 for computation purpose) or weight attached to the message, column: 2, lines: 38-42;) and to the target node are routed next, if the adjusted flow rate after adjustment is larger than zero; and adjusting the routing table with the adjusted flow rates (Upon reception of the UPDATE REQUEST (regarding change in message class or priority-queue), the neighboring stations compare the received time (t.sub.up) with the registration times t.sub.reg of each individual entry in their own routing tables, column: 4, lines: 51-54), computing an adjusted flow rate between

that node to a neighbor node to be the queue-length ratio of that node weighted by a performance parameter minus the queue-length ratio of the neighbor node (The comparators then decide for each message if the destination (target) address (X_d of the message is equal to the local node address). This decisional process is indicated at 94. If the message's destination address is the address of the local node, the message is inserted into the receive queue as indicated at 96. The message number is decremented (acknowledges the difference) as shown at 98 to keep track of the number of messages being received (by decrementing), column: 14, lines: 5-11); also weighted by a performance parameter; but fails to disclose determining a queue-length ratio of an estimated queuing length over the expected queue length of the network nominal steady state for each message class and each target node at that node.

However in the same field of endeavor, Dacosta discloses how the queuing information is related to queuing length and determining a queue-length ratio of an estimated queuing length over the expected queue length of the network nominal steady state (Queue entries in a queue are updated. The queue is indexed by a parameter according to a transmission status of a current packet in a data stream. The current packet is transmitted using a current value of the parameter. A plurality of performance scores are calculated based on the queue entries. A best value of the parameter that corresponds to a best score in the plurality of performance scores is selected, column: 2, lines: 1-7; The updater 220 updates the queue entries in the

queue 210 as a current packet is transmitted. The queue 210 in essence contains information about the last N transmission results. These N transmission (length) results correspond to a history window that slides along the data stream as packets are transmitted to keep track of a history, or the most recent N packet transmissions, column: 5, lines: 64-68) for each message class and each target node at that node; computing an adjusted flow rate between that node to a neighbor node weighted by a performance parameter (The performance estimator 230 calculates a number of performance scores based on the queue entries, column: 6, lines:25-26) minus the queue-length ratio of the neighbor node also weighted by a performance parameter (The performance estimator 230 calculates a number of performance scores based on the queue entries, column: 6, lines:25-26; A plurality of performance scores are calculated based on the queue entries. A best value of the parameter that corresponds to a best score in the plurality of performance scores is selected, column: 2, lines: 4-8).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the multimode network using a routing algorithm as described by Habetha with the use of performance parameters described by Dacosta for the purpose of selecting best scores of the queuing entries based on predetermined length for the optimal performance and updating the routing table queue entries accordingly.

Conclusion

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

- Wicki et al. (U.S. Patent # US 5740346 A) discloses: System and method for dynamic network topology exploration.
- Mitra (U.S. Patent # US5909547) discloses: Method for shared memory management in network nodes.
- Herrmann et al. (U.S. Patent # US 6278690) discloses: Local area network for reconfiguration in the event of line ruptures or node failure.
- Chaffee et al. (U.S. Pub. # US 2002/0186665A1) discloses: Efficient path learning in network.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ketan Soni whose telephone number is (571) 270-1782. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Ketan Soni

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February 6, 2007.

RAFAEL PEREZ-GUTIERREZ
SUPERVISORY PATENT EXAMINER
2/15/07

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